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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,706	11/24/2003	Manabu Sawasaki	1324.66570	5369

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EXAMINER

DI GRAZIO, JEANNE A

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/720,706	Applicant(s) SAWASAKI ET AL.	
	Examiner Jeanne A. Di Grazio	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Election 2/7/2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-32 is/are pending in the application.
4a) Of the above claim(s) 19 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 23-32 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/166,119.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/2003 and 2/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Priority to Japanese Patent Applications 2001-199313 (June 29, 2001) and 2002-119774 (April 22, 2002) is claimed.

2. This is a divisional of Patent Application No. 10/166,119.

Preliminary Amendment

3. Applicant's Preliminary Amendment of November 24, 2003 is acknowledged.

Applicant has canceled claims 1-18, 20-22 and 33-40.

Election/Restrictions

4. Applicant's election without traverse of Species F, Figure 24, claims 23-32 readable thereon in the reply filed on February 7, 2005 is acknowledged.

Claim 19 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on February 7, 2005.

Drawings

5. Figures 35-41 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

6. Claim 30 is objected to because of the following informalities:

As to claim 30, the limitation "wherein the thin film transistor array substrate is located closer to a display side" is not clear. The switching substrate is responsible for display and thus it is not clear as to how the switching substrate can be closer to the display side.

For examination purposes, the Examiner presumes that such limitation reads on the current art of record.

Appropriate correction is **required**.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. As to claim 25, Applicant claims “wherein the second substrate is lighter than the first substrate.” “Lighter” renders the claim indefinite because it is not known as to what “lighter” refers. Applicant may mean that the second substrate is physically lighter in weight than the first substrate. On the other hand, Applicant may mean that the second substrate is composed of a material that is more light transmitting than that of the first substrate. Or, Applicant may mean that the second substrate is lighter in color than the first substrate. Possibly, it may be that second and first substrates have different physical densities.

One of ordinary skill in the art of liquid crystals would not appreciate what Applicant claims by use of the word “lighter” in the claim context.

Therefore, the claim is indefinite.

For examination purposes, the Examiner presumes that “lighter” means lighter in weight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 23-25 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 5,818,550 (to Kadota et al.) in view of United States Patent 5,995,172 (to Ikeda et al.).

8. As to claim 23, Kadota illustrates in Figure 1, a thin film transistor array substrate (O – TFT substrate) with color filters (9R, 9G and 9B) and pixel electrodes (1). The color filter is a resin color filter (Column 5, Lines 52-60).

Kadota also shows a common electrode substrate (counter electrode 11 and opposing substrate 12) in which the common electrode substrate (12) faces in a face-to-face relationship with the TFT substrate as can be seen in Figure 1. A layer of liquid crystal (13) is sealed between the thin film transistor substrate (O – TFT substrate) and the common electrode substrate (12).

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Kadota's Figure 1 also appears to show that the common electrode substrate is thinner than the TFT array substrate. However, the thickness of the substrates and their respective materials cannot be immediately determined.

Ikeda teaches and discloses a tablet integrated liquid crystal display apparatus with less parallax in which a counter electrode substrate is made of plastic and is about 0.6 mm or thinner while the driving TFT array substrate is glass and ranges from about 0.6 mm to 1.1 mm in thickness (Abstract, entire patent).

Clearly, the substrates are (1) of different thicknesses and (2) of different materials (plastic versus glass).

Ikeda teaches that with such a configuration, parallax between the tip of an input pen and a display image is eliminated without the occurrence of bending of a substrate and damage to the switching elements.

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Kadota in view of Ikeda to prevent bending of substrates and subsequent damage to switching elements. Especially in the context of small personal information devices for which excessive impact and trauma to the devices are inevitable, it is highly desirable to ensure that the substrates cannot easily deform to damage the underlying delicate switching elements.

As to claim 24, the common electrode substrate is thinner than the switching substrate as can be seen in Ikeda as noted.

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As to claim 25, because the common electrode substrate of Ikeda is thinner than the switching substrate it may be presumed that the common electrode substrate is lighter in weight than the switching substrate.

As to claim 28, the common electrode substrate of Ikeda is made of plastic as noted.

As to claim 29, Ikeda (Figure 14) shows supports (25) that appear columnar and for holding the substrates at a given distance from each other.

As to claim 30, the switching substrates are located closer to the display side than the common electrode substrates.

As to claims 31 and 32, Kadota teaches that gate electrodes may be made of MoSi, WSi, Al, Ta, Mo/Ta, Mo, W, Ti, Cr and like materials (Column 5, Lines 10-13). For manufacturing convenience and cost efficiency, it may be presumed that the bus lines and source and drain electrodes are likewise made of the same material(s) as the gate electrodes.

Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 5,818,550 (to Kadota et al.) in view of United States Patent 5,995,172 (to Ikeda et al.) and further in view of United States Patent 5,764,318 (to Kurematsu et al.).

9. As to claims 26 and 27, Kadota does not appear to explicitly specify that the common electrode substrate is made of alkaline glass.

Kurematsu teaches and discloses a liquid crystal display panel and projector and teaches that alkaline glass is less expensive than non-alkaline glass (Columns 2, Lines 64-67 and Column 3, Lines 1-3).

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Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Kadota in view of Kurematsu for cost efficiency.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (571)272-2289.

The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeanne Andrea Di Grazio
Patent Examiner
Art Unit 2871

JDG


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